

AMENDMENTS TO THE CLAIMS

This listing replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A DNA coding a polypeptide, wherein the polypeptide comprises:
 - (A) the amino acid sequence of SEQ ID NO: 48; or
 - (B) an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence as defined in (A), wherein the polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival; ~~or~~
 - ~~(C) an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID NO: 48, wherein the polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.~~
2. (Previously Presented) The DNA according to claim 1, comprising:
 - (a) the nucleotide sequence of nucleotides 18 to 746 of SEQ ID NO: 47; or
 - (b) a nucleotide sequence which hybridizes under stringent conditions to nucleotides 18 to 744 of SEQ ID NO: 47, wherein the DNA encodes a polypeptide having an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.
3. (Previously Presented) The DNA according to claim 2, wherein the stringent condition is 6 x SSC, 5 x Denhardt, 0.5% SDS and 68°C (SSC: 3 M NaCl, 0.3 M sodium citrate; 50 x Denhardt: 1% BSA, 1% polyvinyl pyrrolidone, 1% Ficoll 400), or 6 x SSC, 5 x Denhardt, 0.5% SDS, 50% formamide and 42°C.
4. (Previously Presented) A expression vector which comprises the DNA of any one of claims 1 or 2 in such a manner that the DNA can be expressed.
5. (Previously Presented) An isolated cell into which the DNA of any one of claims 1 or 2 is introduced in such a manner that the DNA can be expressed.
6. (Previously Presented) A polypeptide which is an expression product of the DNA of any one of claims 1 or 2, wherein the polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.

7. (Previously Presented) The polypeptide according to claim 6, comprising the amino acid sequence of SEQ ID NO: 48, or an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence of SEQ ID NO: 48.
8. (Previously Presented) The polypeptide according to claim 6, which is modified with one or more modifying agents selected from the group consisting of polyethylene glycol (PEG), dextran, poly(N-vinyl-pyrrolidone), polypropylene glycol homopolymer, copolymer of polypropylene oxide/ethylene oxide, polyoxyethylated polyol and polyvinyl alcohol.
9. (Previously Presented) A monoclonal antibody which binds to the polypeptide of any one of claims 6 or 7.
10. (Previously Presented) A method for supporting hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival, comprising the step of co-culturing stromal cells comprising a DNA encoding a polypeptide under conditions in which the polypeptide is expressed, with hematopoietic stem cells or progenitor cells,
wherein the polypeptide comprises
 - (A) the amino acid sequence of SEQ ID NO: 48; or
 - an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence of SEQ ID NO: 48 wherein the polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.
11. (Previously Presented) The method according to claim 10, wherein the DNA comprises:
 - (a) the nucleotide sequence of nucleotides 18 to 746 of SEQ ID NO: 47; or
 - (b) a nucleotide sequence that hybridizes under stringent conditions to nucleotides 18-746 of SEQ ID NO: 47, and wherein the polynucleotide encodes a polypeptide having activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.
12. (Previously Presented) A method for supporting hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival, comprising (a) culturing hematopoietic stem cells or progenitor cells in the presence of a polypeptide, wherein said polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival when the hematopoietic stem cells or hematopoietic progenitor cells are cultured in the presence of the polypeptide, said polypeptide comprising
 - (A) the amino acid sequence of SEQ ID NO: 48; or
 - (B) an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence of SEQ ID NO: 48, wherein said polypeptide has activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.

13. (Previously Presented) A pharmaceutical composition having an effect to support proliferation or survival of hematopoietic stem cells or hematopoietic progenitor cells, comprising an effective amount of a polypeptide having an activity to support proliferation or survival of hematopoietic stem cells or hematopoietic progenitor cells when hematopoietic stem cells or hematopoietic progenitor cells are cultured in the presence of the polypeptide, said polypeptide comprises

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- (A) the amino acid sequence of SEQ ID NO: 48; or
 - (B) an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence of SEQ ID NO: 48, and wherein said polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.

14. (Cancelled)